clinic allows determinations of left ventricular size which is correlated with a higher incidence of late deaths. Only more clinical experience with this technique will clarify its place in the care of patients with acute myocardial infarction.

A new and interesting technique to determine the size of an infarcted area of myocardium has been developed by Dr. Maroko and colleagues. It is based on determining the area of injury by utilizing direct electrode recordings from the myocardium and quantitating the degree of ST segment elevation.[1] This technique has been studied in animals with experimental coronary artery occlusion and has been correlated with the decline of creatine phosphokinase in the ischemic tissue. Utilizing these techniques to quantify the degree of myocardial damage, the effects of glucagon, beta-blocking agents, digitalis glycosides and anti-arrhythmic agents on infarcted tissue have been studied.

While all of these techniques are of interest in the laboratory, they cannot be applied in man. In addition, a number of questions regarding the value of studying ST segment elevation for quantifying myocardial damage have been raised.[4] These include the detection of subendocardial and intramural myocardial infarction, the need to apply pressure to the myocardium by electrodes which alter ST elevations, and the difficulty in placing electrodes precisely for repeated study.

The early surgical intervention in patients with acute myocardial infarction who develop rupture of papillary muscles, rupture of the ventricular septum and large ventricular aneurysms has become commonplace.[5,6] The results of such operations have been good and they depend to a large extent on the severity of myocardial damage in each individual patient. The resection of infarcted tissue and the use of saphenous by-pass grafts from aorta to coronary artery are being carried out under experimental protocols in patients with acute myocardial infarction. These techniques need further evaluation before being adopted widely.

Although much of the investigation described by Braunwald and colleagues is promising, many more studies with these and other new methods are necessary before clinical care of patients with acute myocardial infarction can be expected to improve. In addition, the development of new methods for studying and treating patients after symptomatic disease develops will likely have only a small effect on mortality from this disease process.

Among the several fields of investigation which have promise for reducing mortality are the identification and treatment of high-risk individuals, understanding of genetic abnormalities of lipid metabolism, public education regarding risk factors and the desirability of seeking early medical attention after infarction, and the development of effective circulatory assist devices. One other area of particular promise is the identification of precipitating factors in acute infarction.[7] While acute infarction and sudden death have both increased drastically, there is less substantial evidence that atherosclerosis has increased dramatically.[7,8] The factors which precipitate acute infarction may be identified by studying intently patients with impending infarction. These studies must include assessment of metabolic, hematologic, social and psychological, environmental and cardiac factors related to infarction. While no dramatic breakthroughs appear on the horizon, substantial long term progress appears possible.

DONALD C. HARRISON, M.D.
Chief, Cardiology Division
Stanford University School of Medicine

1. Braunwald E, Karliner JS, Ashburn WL, et al: Research on the diagnosis and treatment of myocardial infarction. Calif Med 114:42-61, May 1971

2. Favaloro RG, Effler DB, Groves LK, et al: Direct myocardial revascularization by saphenous vein graft. Ann Thorac Surg 10:97-111, 1970

3. Johnson WD, Lepley D Jr: An aggressive surgical approach to coronary disease. J Thorac Cardiovasc Surg 59:128-138, 1970

4. Boineau JP: Modification of infarct size (Letter to Editor). Circulation 43:317, 1971

5. DeBusk RF, Harrison DC: The clinical spectrum of papillary muscle disease. New Eng J Med 281:1459-1467, 1969

6. Kitamura S, Mendet A, Kay JH: Ventricular septal defect following myocardial infarction: Experience with surgical repair through a left ventriculotomy and review of the literature. J Thorac Cardiovasc Surg 61:186-199, 1971

7. Anderson TW: Role of myocardium in the modern epidemic of ischemic heart disease. Lancet II 753-755, 1970

8. Morris JN: Recent history of coronary disease. Lancet I: 1-7 and 69-73, 1951

Of Pharmacists, Physicians And Health Care

In his wide ranging discussion which appears elsewhere in this issue Dean Goyan forthrightly addresses himself to many problems in patient care which he recognizes as going far beyond

"the physician-pharmacist interface." Pharmacy is indeed in crisis, finding itself since World War II "increasingly estranged from the widely publicized but barely existent 'health care team'" at a time when problems relating to the use and misuse of both prescription and over-the-counter drugs are becoming of truly massive importance to all who are concerned with health care. Dean Goyan is an acknowledged leader who envisions the pharmacist in an important new role in which his particular knowledge of drugs and drug preparations will result in their more appropriate and more precise use in patient care and maintenance of health. The problems of pharmacy are acute indeed and many of them are shared to a greater or lesser degree by the many other professions which together compose the "health care team."

In his book *The Greening of America* (to which Goyan refers) Charles Reich identifies what he calls Consciousness I, II and III Americans. Whether this distinction proves to be valid and whether the thesis that Consciousness III Americans will eventually displace the Consciousness I and II types will prove correct, remains to be seen. Briefly the Consciousness I American is described as having the traditional outlook of the American trying to get ahead, competitively pitting his success against the success of others in essentially unregulated fashion—free enterprise, if you will. The Consciousness II American is described as accepting the values of organization and the necessity for control, even though this means domination of the individual and his submission to the corporate ideal, whether public or private or the State itself, a view which Reich associates with "liberalism." And the Consciousness III American is described as "the new generation" which seeks liberation from the imperatives of society, sees through "phoniness" with astonishing clarity, is deeply committed to personal fulfillment for all as well as to the betterment of communities and of society as a whole, and which seeks to share actively in the decision-making processes through what is coming to be called "participatory democracy."

It is becoming obvious, as Dean Goyan intimates, that what might be called the Consciousness III attitudes are gaining considerable acceptance and influence in various allied health professions, and in consequence the traditional organizational hierarchy in patient care, like corporate industry or the corporate state itself, is being increasingly challenged, particularly by the younger members of these professions, and this includes medicine. The dictation or direction by physicians or organized medicine of what shall or shall not be the function of other professions is no longer well received, and even the doctor's "orders" in the hospitals and elsewhere are beginning to be questioned by nurses, pharmacists and others, and even by consumers where matters of cost are involved. All of this seems to be far more deeply rooted than it might first seem, and likely it foreshadows some very fundamental changes in the governance of patient care and the delivery of health care services, perhaps sooner than many might think possible.

So far the nature and group dynamics of "health care teams" have received very little consideration or study by the medical profession. Others have been giving it far more thought. Physicians are apt to take it for granted that if there are to be health teams they will always be the captains. In certain situations, as when a life is in the balance on the sickbed or in the operating room for example, this will be uncontested. Here there must be a team captain, he must be a physician, and like a general on a battlefield he must make the best decision he can with whatever information and resources are available, and his decision must be obeyed by those in attendance. But in less critical circumstances this traditional command authority may become more diffuse and other professionals are found more directly involved in the decision-making processes of patient care. The thought, perhaps specter is a better word, of patient care being directed by committees of health professionals, very possibly with consumers added as voting members, inevitably comes to mind. Yet this in fact already occurs (although so far without consumer or public participation) in certain areas of rehabilitation and in the actions of tumor boards for example, and the experience has been by no means all bad.

Dean Goyan has raised as many questions for physicians to ponder, as he has for pharmacists. It is time that medicine gives as much thought to the roles of the various allied health professions in the governance of patient care and health care as has already been given by a number of other professions which are properly concerned. "The times they are a-changin'." Patient care and the maintenance of health are now everybody's business and participatory democracy is surely in the air.